

WHAT IS CLAIMED IS:

1. An apparatus for folding sheet material, comprising:
a fold blade having a rounded folding surface;
a fold roller; and
drive means for moving at least one of the fold blade and the fold roller into operable communication such that the fold roller passes at least one of around and along the rounded folding surface.
2. The apparatus of claim 1, wherein the fold roller rotates about an axis parallel to a longitudinal axis of the fold blade.
3. The apparatus of claim 2, comprising:
two fold rollers, wherein the fold rollers are biased towards one another.
4. The apparatus of claim 3, comprising:
two fold flaps for forcing a sheet material around the fold blade.
5. The apparatus of claim 4, wherein the fold flaps are pivotably biased towards each other.

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6. The apparatus of claim 5, wherein the fold rollers are rotatably mounted on the fold flaps such that the fold rollers are biased towards each other.
7. The apparatus of claim 5, wherein the fold blade is positioned in a plane which passes between the two fold rollers.
8. The apparatus of claim 3, wherein each fold roller comprises:
multiple sub-rollers.
9. The apparatus of claim 1, wherein the fold roller rotates about an axis perpendicular to a longitudinal axis of the fold blade.
10. The apparatus of claim 9, wherein the drives means is operable to move the fold roller along the longitudinal axis of the fold blade.
11. The apparatus of claim 1, wherein at least one of the size and shape of the rounded folding surface is adjustable.
12. The apparatus of claim 11, wherein the fold blade includes at least two blade sections that are movable relative to one another.

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13. A method for folding a sheet of material, comprising the steps of:

feeding a sheet material into an area between a fold roller and a fold blade;

and

moving the fold roller and the fold relative to one another to form a rounded fold in the sheet using the fold blade, wherein the fold blade includes a rounded folding surface.

14. The method of claim 13, wherein the fold is formed by moving two fold rollers relative to the fold blade such that the fold blade and the sheet material pass between the two fold rollers.

15. The method of claim 14, wherein each fold roller comprises:

multiple sub-rollers, wherein a cumulative length of the sub-rollers and spaces between the sub-rollers is at least the length of a desired rounded fold.

16. The method of claim 13, wherein the fold is formed by moving the fold roller along a longitudinal axis of the fold blade.

17. The method of claim 13, wherein the feeding step comprises the step of:
guiding the sheet material past the fold blade with a guide.